

# PATENT COOPERATION TREATY

From the  
INTERNATIONAL SEARCHING AUTHORITY

## PCT

To:

see form PCT/ISA/220

### WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY (PCT Rule 43bis.1)

Date of mailing  
(day/month/year) see form PCT/ISA/210 (second sheet)

Applicant's or agent's file reference  
see form PCT/ISA/220

**FOR FURTHER ACTION**  
See paragraph 2 below

International application No.  
PCT/EP2004/000049

International filing date (day/month/year)  
07.01.2004

Priority date (day/month/year)  
07.01.2003

International Patent Classification (IPC) or both national classification and IPC  
C01F7/50, C01F5/28, C01B9/08

Applicant  
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#### 1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☒ Box No. VII Certain defects in the international application
- ☒ Box No. VIII Certain observations on the international application

#### 2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will usually be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA"). However, this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1 bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of three months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

#### 3. For further details, see notes to Form PCT/ISA/220.

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**WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY**

International application No.  
PCT/EP2004/000049

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**Box No. I Basis of the opinion**

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1. With regard to the **language**, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
  - ☐ This opinion has been established on the basis of a translation from the original language into the following language , which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).
2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
  - a. type of material:
    - ☐ a sequence listing
    - ☐ table(s) related to the sequence listing
  - b. format of material:
    - ☐ in written format
    - ☐ in computer readable form
  - c. time of filing/furnishing:
    - ☐ contained in the international application as filed.
    - ☐ filed together with the international application in computer readable form.
    - ☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

**WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY**

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PCT/EP2004/000049

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**Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

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1. Statement

Novelty (N)	Yes: Claims	1-10
	No: Claims	11-18
Inventive step (IS)	Yes: Claims	1-10
	No: Claims	11-18
Industrial applicability (IA)	Yes: Claims	1-18
	No: Claims	

2. Citations and explanations

**see separate sheet**

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**Box No. VII Certain defects in the international application**

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The following defects in the form or contents of the international application have been noted:

**see separate sheet**

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**Box No. VIII Certain observations on the international application**

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The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

**see separate sheet**

**Re Item V**

**Reasoned statement with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

1. Reference is made to the following documents:

- D1: DELATTRE J.L. ET AL.: 'Plasma-Fluorination Synthesis of High Surface Area Aluminum Trifluoride from a Zeolite Precursor' JOURNAL OF THE AMERICAN CHEMICAL SOCIETY, vol. 123, 2001, pages 5364-5365, XP002254993
- D2: FR-A-1 383 927 (DU PONT) 4 January 1965 (1965-01-04)
- D3: GB 995 186 A (MONTECANTI SOCIETA GENERALE PE) 16 June 1965 (1965-06-16)
- D4: US-A-2 959 557 (HANSFORD ROWLAND C) 8 November 1960 (1960-11-08)

2. The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claims 11-18 is not new in the sense of Article 33(2) PCT.

Claims 11 and 12 are drafted in terms of a "product-by-process" claim. In view of the provisions of Article 64(2) EPC the EPO considers "product-by-process" claims to extend to the product per se. The product thus falls within the general definition of an amorphous metal fluoride. Taking into account the fact that a product is not necessarily new if it is made by a novel process and the interpretation of "product-by-process" claims used by the EPO, the subject-matter of claims 11 and 12 is considered to lack novelty in respect to documents D1-D3, when considered separately.

Document D1 (cf. p.5365 col.1 second paragraph) disclose amorphous  $\text{AlF}_3$  catalysts having high surface area ( $190 \text{ m}^2/\text{g}$ ).

Document D2 (cf. p.9 example 6) describes amorphous aluminum fluoride catalyst for fluorination reactions.

Document D3 (see the examples) describes the preparation of amorphous transition metal fluorides showing catalytic activity and having higher air and moisture stability than the respective starting halides (cf. p.2 l.46-59).

Hence, the subject-matter of claims 13-18 is not novel over the teaching of documents D1 to D3, when considered separately.

**Re Item VII**

**Certain defects in the international application**

1. The term "acidic acid" used in claim 3 and in the description on pages 3 and 13 is unclear.
2. The formula for  $\beta$ -aluminum fluoride in Table 1 should be corrected to  $\text{AlF}_3$ .

**Re Item VIII**

**Certain observations on the international application**

1. Although method claims 1 and 10 and product claims 11-13 and 18 have been drafted as separate independent claims, they appear to relate effectively to the same subject-matter and to differ from each other only with regard to the definition of the subject-matter for which protection is sought. The aforementioned claims therefore lack conciseness. Moreover, lack of clarity of the claims as a whole arises, since the plurality of independent claims makes it difficult, if not impossible, to determine the matter for which protection is sought, and places an undue burden on others seeking to establish the extent of the protection.

Hence, claims 1, 10-13 and 18 do not meet the requirements of Article 6 PCT.